California GARDEN

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JUNE
1935

California Tower at Night
California Pacific International Exposition

Spanish Daggers
By Helen Weldin

Ceanothus Cyaneus
By K. O. Sessions

A Collecting Trip
By C. I. Jerabek

The Magazine . . .

"California Garden"

A Practical Local Guide published monthly
for more than 20 years
Subscription $1.00 per year

The official organ of the San Diego Floral Association, in its 24th year of continuous activities.
All interested in garden matters and civic beautification are invited to join. Dues $1.50 per year. Magazine and Membership combined $2.00 per year.

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REPORT OF THE SECRETARY OF THE SAN DIEGO FLORAL ASSOCIATION, FOR THE YEAR 1934-35

Today ends the 28th year of activities of the San Diego Floral Association. Allow me to refresh your memories of the twelve interesting and well attended meetings and of those who gave of their years of experience in floral activities to help make these meetings of value to the members and friends.

Mrs. Larson with her specialty in the lily field, Mrs. Carringer on pools and aquariums, their planning and care. Miss Rainford with her lovely and appropriate containers for Japanese arrangements and Mrs. Tuttle and her Iris hobby.

Peter Barnhart who is always so generous with his time and information, gave a most interesting talk on the flowering vines at Christmas time, with Mr. Jerabek speaking on the Christmas greens and Mr. Morley on berried shrubs. Mr. Charles Gibbs Adams in his own charming manner told us of Gardens of Southern California illustrating his talk with slides of beautiful gardens. We also were privileged again to have Mr. Clayton and his gorgeous colored pictures. Mr. MacKenzie on pruning roses and Mr. McLean on pest control with Miss Sessions nearly always present adding to the knowledge and pleasure of those present by describing and classifying specimens brought to the meetings.

About three years of talking, planning and working on a vision was brought to a happy consummation by the dedication of the Aloe and Agave Garden on Park Boulevard in Balboa Park, on Saturday, March 23, 1935, at 2 p. m., when a very large number of friends assembled to pay honor to San Diego's loved floral authority and distinguished horticulturist, Miss Kate Sessions, who conceived the idea of trrning an unsightly wasteland into a charming setting and a most valuable addition to the Park.

We had our usual Spring and Fall flower shows, the latter being held in the Bridges building down town, and while not a financial success it was surely a beautifully artistic show and through the untiring work of our President the building seemed to mold itself into the setting she wished, giving very flattering results.

The President and her House Committee have had a trying year. They have had to worry along with repairs to the Floral Building and in the end had to vacate entirely, and I think all members feel a bit lost at any meeting outside our Floral Home, but when the Exposition is closed and we return, we will have the satisfaction of knowing our Floral building is in the best of repair and should last forever—at least until we need a larger building. I for one, sort of feel a resentment to that formidable old chain across the porch door and the "No Admittance" sign stating it is for the "Press Members Only" and the thought came to me that perhaps when we moved back in our building we should put up a sign "For Flower and Garden Lovers Only" and possibly we would have to enlarge the building at once; for a "Keep Out" sign seems to create a desire to enter.

And in closing I would like to quote from the Souvenir Program of San Diego Floral Association Day at the Panama-California Exposition of December 4, 1915, from "Renewing Old Acquaintance" by our former beloved president, Alfred D. Robinson.

"The San Diego Floral Association, founded some ten years ago with the avowed object of developing the natural advantages of the city from a floricultural standpoint, has more than justified its existence and stands today stronger than ever and more determined to make San Diego the Botanical Paradise it should be.

"Its power has never been a financial one, for its perfectly neglible dues, including the monthly organ guide, 'California Garden,' would not have sufficed to pay running expenses had not officers and members donated a world of time and much of more material sort. This well known fact, however, has made its influence stronger and more widespread, for no one has been able to ascribe to the officers any motive for their activities outside of the avowed one to make the city look better and smell sweeter.

"To all those who believe in a city beautiful for a home, the San Diego Floral Association offers an opportunity to show forth the faith that is in them, and the communion of kindred spirits. It has a large membership, but on its rolls should be every citizen to whom the word 'Garden' means something more than so much of a water bill per month."

MARY E. WARD,
Secretary.

Note the date which appears after the mailing address on the cover of your "California Garden" and when your subscription expires, please renew promptly.

Report of the Annual Meeting

By ADA PERRY

The present directors of the Floral association were unanimously re-elected at the June meeting after the nominating committee composed of Mrs. Paul Tuttle, Mrs. George Gardener and Lyle Carringer made its report.

The association will continue its activities for the coming year under the able leadership of the staff named in the heading of California Garden.

At the meeting, Mrs. Mary E. Ward, secretary, read a resume of the past years enjoyable meetings and outstanding flower shows. While these latter were not so successful financially as in other years, praise was given Mrs. Mary A. Greer, president of the association for transforming the unfamiliar Bridges building into an artistic flower show setting.

The meeting was held in the Chamber of Commerce auditorium, where the association is gathering during the occupation of their building in Balboa Park by the Exposition. Peter D. Barnhart, warm friend of the association, was a visitor and brought specimens of interesting flowers and vines with him. Mrs. M. C. Larson of Carlsbad was another who brought flowers. Hers were lilies in which she specializes. Pardalinum, speciosum, regale and longiflorum Harrisii were the varieties.

Miss K. O. Sessions' talk on vines was the real feature of the evening. Miss Sessions probably doesn't love vines more than other plants but she evidently thinks just as much of them as anything in flowerland and that, of course, is a great deal. She brought a picturesque woven basket filled with fresh specimens. The clean foliage and lovely blossoms spoke for themselves very eloquently when Miss Sessions held them up and explained how and where they liked to grow and when to prune them. Such items are invaluable to home gardeners and many members of the association had their pencils out making notes.

One of the honeysuckles was lonicera hildebrandii, which has individual blossoms six inches long, really amazing flowers. A spray of passiflora caeruleo albo was also shown. This passion vine with its large tough leaves in threes and huge blossoms of light rose and purple is seldom listed much less shown. Bignonia cherere and tecoma mackenii (summer blooming twin of the Queen of Sheba) were other very pretty specimens, but at least a dozen other vines of fine habit, including jasmines and honeysuckles and grape ivy, were included by Miss Sessions.

The evening ended with a plant drawing, as there were no facilities for the usual light buffet that follows election night.

FINANCIAL REPORT OF THE SAN DIEGO FLORAL ASSOCIATION FOR THE YEAR

June 1934 to June 1935

RECEIPTS

On hand June 19, 1934	$ 24.55
August, 1934, show	356.97
November Chrysanthemum show	37.85
Christmas Greens	11.40
Rent vases and building	18.50
April, 1935, show	219.65
Memberships	408.00
Subscriptions	133.45
Advertisements	119.75
	$1,330.12

DISBURSEMENTS

Publishing magazine	$ 414.57
Payment of note in full	152.78
Dues to National Societies	15.00
Clayton lecture	25.00
Secretary (salary)	120.00
Trophies	94.43
Advertising for shows	44.78
Expense of shows	326.57
Current expenses	53.44
Garden Contest expense—trophies	47.14
	$1,293.71
Cash on hand	36.31
	$1,330.12

ERSKINE J. CAMPBELL,
Treasurer.

June 17th, 1935.

Audited and found correct.

W. A. STUBBS,
Auditor.

FRIENDLY FERTILIZERS

Some fertilizers, like some people, just don't get along together.

Chemists of the United States Department of Agriculture have been making careful studies of chemical reactions in fertilizer mixtures to be able to warn farmers and manufacturers against undesirable combinations of materials. Some combinations cause loss of plant food while others render plant food unavailable to crops.

Knowledge of such reactions has become particularly desirable because of the increasing use of ammonium salts as sources of nitrogen in fertilizers in place of more expensive nitrates and organic ammoniates. Because these ammonium salts have a greater tendency to cause acidity in soils than the materials they have displaced, liming materials are being added to fertilizers containing these salts to overcome the acidifying action.

When ordinary limestone is used for this purpose, only a limited quantity can be added; otherwise reaction between it and superphosphate in the fertilizer will render some of the phosphoric acid unavailable as plant food. Similarly the use of ordinary limestone in considerable quantity in fertilizer mixtures containing ammonium phosphate is likely to cause loss of ammonia is superphosphate is not present. But if dolomite, a kind of limestone in which half the lime is replaced by magnesium, is used, neither of these undesirable reactions take place.

The desirability of dolomite as a liming material for mixing with fertilizers is enhanced by the fact that it also supplies magnesia to soils some of which are deficient in this plant food.

A GARDEN

A garden is a sunny room,
Where petunias and pansies bloom;
A music hall, where all day long,
Birds fill the sheltered nooks with song.

A garden is a magic space
Where miracles are taking place,
And Nature, out of leafy mold,
Produces phlox and marigold.

A garden is a gallery gay,
With lovely pictures on display;
A church, where stately lilies nod,
And men draw very close to God."

—Author Unknown.

Spanish Daggers . . .

By HELEN WELDIN

. . . *Unique Members of the Lily Family*

As spray
Of sunning fount
Spreads facets to the sky—
So yucca lifts her fairy cups
Of dew.

Each spring and early summer southern California slopes are peopled with the snow dignity of yuccas, extravagant in their display of bell shaped flowers. Staunchly rising out of barren hillsides where little other vegetation grows, they wave their plumed stalks as olden knights flaunted the trophies of their court favorites. Yucca is the Spanish word for "bayonet," hence the term "Spanish dagger" is commonly applied to all yuccas, but particularly to the Mohave yucca that flourishes so widely in this state.

This genus of plant, belonging to the lily family, consists of at least thirty known species. They grow most abundantly in Mexico and the southwestern part of the United States, but are also found in the southern states, the Rocky mountain region, and on the Great Plains as far north as Dakota, and have been observed to cover such dense areas in the southwest as to form straggling miniature forests. The woody, fibrous stems are usually short, but sometimes arborescent as in the case of the Joshua tree, bearing at the top a crown of rigid sword shaped leaves, from which springs an erect flower cluster of small ivory cups. The fruit may have a thin, fleshy outer covering which dries on the shell when the seed chambers do not open of their own accord, or it may consist of a stiff, crisp shell sometimes tending to split open at the top, but usually remaining closed. Whether the seeds open or not, they fall to the ground in a dry and brittle condition and are carried far from the parent tree by wind or water, being finally broken up and scattered widely. Large quantities of yucca seeds are eaten by rodents, and the birds, feeding on the fleshy fruit, assist in distributing them. Although the seeds are highly susceptible to blight from attacks by moths, the flowers are forced to depend on this agency entirely for their fertilization.

The Mohave yucca has been known for about fifty years, but until eleven years ago was confused with two other species. The belt of growth extends from northeastern Arizona and southern Nevada, across the Mohave desert into California, and from the southern base of the San Bernardino mountains to the coast and north to Monterey. They are sometimes on mountain slopes four thousand feet above sea level and again on the floor of the desert. The Mohave yucca grows low, practically always under ten or twelve feet from the ground; the trunk is seldom over ten inches in diameter. Where freed from dead leaves the cross checked and furrowed bark is a dark umber brown. Distinctive characteristics of the Mohave yucca are found in the length and form the dagger-like leaves and the fruit. The yellowish green leaves are sixteen to twenty-four inches in length, tapering off to a sharp point from a three-inch base, each blade thin and strongly rolled from the middle to the point of the leaf. A single branched cluster of flowers rises fourteen to sixteen inches from the nest of young green leaves, and the pulpy, sweetish fruit ripens late in August or early September and hangs on a slender drooping stem. The seeds are flat, blackish in color, and are packed in six chambers of the fruit. The wood is fairly soft and light in weight. No definite statement can be made concerning age limit, but careful observation has proven that the Mohave yucca is a slow, persistent grower in its own habitat, and scarcely any change has been pereceived in trees that have been watched for the past twnty-five years.

Yucca Brevifolia, or branching yucca, more familiarly known as the Joshua tree, is the old man of the desert, featured with a grotesqueness seldom duplicated in nature. Easily the wildest looking denizen of the desert hills and plains, the Joshua tree grows disdainly aloof from all other plant development. There are no branches until the tree has once bloomed, when each season thereafter a newly weird and crooked arm extends itself menacingly upward. Never would any living thing dare intrude upon the ground guarded by this botanical monster, and the appearance of the wickedly clumsy branches alone would easily discourage any natural enemy, if it is possible that any natural enemy would be tactless enough to admit its dislike for such a creature. The wood of the trunk varies from one to two feet in diameter and is much harder than that of the smaller varieties of yuccas. The usual height is from eighteen to twenty-five feet, but occasionally one may be seen thirty to thirty-five feet tall. Like its sister plant, this tree is slow and stubbornly persistent in its growth and attains to the ripe age of one or two hundred years—and in some instances there is little doubt that it has amiably rounded out a third century. The strong, tough roots descend to a great depth for their nourishment, thus giving a firm anchorage. Although many trees are bent and bowed like rheumatic old men, few ever actually succumb to storm, and practically never to fire, as fire will not burn the stiff, hard leaves.

Various popular names have attached to the different species of the low bearing yuccas. *Yucca Whipplei* is sometimes called "Our Lord's Candle" because of the hundreds and at times literally thousands of drooping candle white bells that spring from the green circle of leaves. This is especially plentiful and grows unusually high in some of the canyons of the San Bernardino range. *Yucca Filamentosa* is the original "Spanish bayonet" and perhaps most widely known. The yucca thrives well in Great Britain and is there known as "Adam's Needle." Because of the characteristic shredding of the leaves of the *Filamentosa,* this species is designated as "Eve's Thread." In the variegated *Filamentosa,* the light green, shredded leaves are edged with a broad band of yellow.

Yuccas are of ancient origin, and their remains have been traced as far back as the Tertiary period. Evidence of the practical part they have played in the lives of primitive people has been revealed by the Indian tribes of the Comanche, Apache, Navajo, Pueblos, Havasupai, Mohave, Pima, Papago, Maricopa, Walapai, Paiute, Panamint, and the Dieguenos. The fibers of *Filamentosa* stems and foliage are the "silk grass" so often mentioned by the early writers of Virginia, and used by the Mexicans of the south for cordage. Countless specimens of sandals, cordage and other relics from the caves

and cliff houses of the ancient southern and southwestern tribes prove that they considered this fiber highly valuable. Today, the tough fiber-like wood is of little commercial value, although a possible use has been suggested in the making of paper pulp. However, we do not anticipate writing our letters on yucca stationery in the near future. We do not even crave the aristocratic distinction of transplanting a yucca to our own domain, not at least while the maximum penalty constitutes a rest of six months in jail or a fine of five hundred dollars!

"Bear grass," so called by the Mexicans, was the fiber of the *Glauca* species and was used for making the seats of chairs. The fruit, resembling small bananas, was cooked as an article of diet by the Mexicans as well as the Indian tribes of New Mexico and Arizona. The flowers of *Filamentosa* and Gloriosa were eaten by the Virginia Indians and tribes farther south. Roots of the yucca contain a saponaceous matter used in place of soap (called amole) by the southwestern tribes, and used particularly by the Pueblos for washing the hair—a blessing indeed in a territory where water is alkaline. The Kioa added the roots to a preparation used in the tanning of skins. The Navajos made a green dye from the chopped leaves of *Yucca Baccata* in conjunction with another plant, and the Zuni tribe extracted the juice from the fruit of *Glauca* and, after boiling it, used it in the manufacture and decoration of pottery. The dried flower stalk came to be an excellent material for fire drills among the Apache and Zuni cliff dwellers. After boiling the stalk of *Glauca,* the Zuni shredded it with their teeth to procure a strong, straight fiber, from which hairbrushes and many other practical articles were then constructed. The Pueblos of the extreme southwest used thin strips of the leaf as paint brushes in decorating their pottery, masks, tablets, dolls and prayer sticks. In basketry, the leaves and slender fibrous roots were extensively used in the making of trays, plates, bows, mats for household use, and shrouds for the dead. The fiber was used in straight bunches or twisted into cord for making nets, noose snares, bowstrings, sandals, cloth and warp for rabbit skin, and feather robes, while single threads were used in their natural state for sewing and tying. The Papago twisted his fiber into cord by a simple device held in the hand. The net of the carrying frame)kihu) of the Pima and Papago Indian is elaborately worked and resembles a delicate, flowerlike lace. The Zuni carried dried flower stalks in certain ceremonies, and the Hopi and Pueblo tribes used the leaves for simulating flagellations in their initiation rites. On and on we might recount the uses of this remarkable plant were it possible to drift back into that past age.

A field of blooming yuccas against a brown and clay baked mountainside is not a sight soon forgotten, whether they flower as a crown of the Mohave yucca or the ghoulish Joshua tree. They thrive like horny cactus where more delicate and fragile plants would soon perish, yet invariably with the springtime, present the world with hearts of radiant lily bells that ring a welcome from every California hillside.

For the botanically minded, each flower possesses a perianth, or combined calyx and corolla, or six regular pieces, and has as many hypogynous stamens, (growing from the axis beneath the pistil or ovary—for the non-botanist!) with dilated filaments, bearing relatively small anthers. The three celled ovary is surmounted by a short, thick style, dividing above into three stigmas, and ripens into a succulent berry in some of the species and into a dry three valve capsule in others.

Ceanothus Cyaneus . . .

By K. O. SESSIONS

. . . *Finest Species of Native Wild Lilacs*

Ceanothus cyaneus, locally known as the Lakeside variety, was found at the highest elevation above Lakeside some twelve years ago by Miss Myrtle Phillbrook and her brother. Miss Alice Eastwood of the California Academy of Science in Golden Gate Park, San Francisco, described and published it botanically. Cyaneus means blue and this is the finest blue of all the native blue wild lilacs.

Its wonderful growth this year has been very marvelous; the fine quality of its foliage and the abundance of its dark blue flowers make it a most imposing specimen. In three years time it has attained a size of six to ten feet in diameter, and fully as tall. A plant six years old from seed growing at Miss Tunnell's home, Pacific Beach, measures 25 feet spread and 12 feet high and is completely covered with flowers and many fresh bud sprays are developing. It seems naturally to branch very abundantly from the ground, and I do not think it will make a satisfactory plant when trained tree-like to only one or two main trunks. The Torrey pine has been San Diego's most conspicuous tree horticulturally, and this Ceanothus promises to help decidedly in putting San Diego on the map of the horticultural world. It is a very superior and free-flowering shrub, bearing a few flowers all through the year, but a great abundance of them from the middle of April to September. Because it flowers later than all the other Ceanothus it will produce a pure and unhybridized strain of seed. It has been found in only about four isolated locations, a few plants in a place, except for the Lakeside hilltops where it is scattered over a few acres. The birds have no doubt carried the seed to the isolated localities. The fact that it was born some 25 miles from the coast and that it flourishes to a remarkable degree near the end of Point Loma, where it is exposed to the south winds and the very moist air from the ocean, is interesting. An illustration of this may be observed at the cottage garden of Mr. E. J. Campbell of Point Loma. His dozen specimens of different ages are very wonderful. It is also flourishing at Rancho Santa Fe, where one gardener reports its fine growth enhanced by underground moisture from a septic tank system of irrigation. Mr. Campbell does not water his plants individually, so no doubt the moisture in that locality is sufficient for them.

Seed sent to the Cape of Good Hope, South Africa, has produced plants that have blossomed and promise to do well there. All southern California plants flourish with dryer conditions in the fall.

Mexican Plants for American Gardens . . .

By LESTER ROWNTREE

. . . *A Review*

For some years our mail has contained frequent flurries of letters (chiefly from the intrepid gardeners of England and the Continent) inquiring how and where certain much desired native plants of Mexico can be obtained.

We all know that dahlia species, zinnias, ageratums, many fuchsias, etc. hail from that enticing and little known country. But we know also that much else of horticultural worth still lurks undiscovered in its valleys and on its mesas and mountain sides.

Howard Gates, through his many invasions of Mexico has opened a new world to the collectors of succulents, and Eric Walther's recent visit there, with his subsequent writings and talks, have thrown further light. But still there is a persistent conviction that the land still holds, particularly for the California gardener, further unexplored caches of floral treasures for the expert grower to bring to light.

Many of us have read with interest Cecile Hulse Matschat's article in the "Gardeners' Chronicle" on Mexican plants and when we heard that she was preparing a book on the subject we were all anticipation. Now the book is out, and a most interesting volume it proves to be (Mexican Plants for American Gardens, Houghton Mifflin, $3.50).

Part I, "The Garden" lays the foundations, giving much useful historical and horticultural background and discussing fully the various types of Mexican garden design, from the earliest records down to the present. After which one pounces with gleeful anticipation on Part II, *"The Plants"*.

Here he first chapter gives grateful mention of the plant huntsmen who brought out of the country those garden treasures we welcomed so eagerly to California's gardens. The second chapter is devoted to the cactus tribe —and gives some useful habitat notes. Naturally, the third chapter, on the wildflowers of Mexico, is the high-watermark of the book, since what we have all been awaiting is detailed information on those indigenous Mexican plants which are still strangers to California gardens and which are in consequence eagerly desired.

Here we find new salvias, a promising cuphea or two, a yellow loeselia, Ruellia nudiflora with blue flowers and silky pale green leaves, Heterospermum pinnatum" a miniature bright yellow daisy" which sounds worth while, as well as some of the tagetes species—and one is anxious to try Pentstemon campanulatos.

Naturally many Mexican species grow on this side of the border as well, and are claimed as California natives: Phacelias campanularia and parryi, for instance; Lathyrus splendens; Loeselia tenuifolia; many of the linanthus species; Romneya coulteri; Coreopsis maritima; and others.

It is interesting to find that the latest excitement in columbines, Aquilegia longissima, is native also in Mexico. and to get new light on sanvitalias and bidens. That is a good chapter. The following one "Color with Bulbs", is very informative on the subjects of—among others—species dahlias, calochorti, Bravoa geminiflora (resembling the tuberose), and the everpopular tigridias.

Next the author goes fully into the uses of plants for patio gardens. (This will be invaluable for patio garden fans in the south). And the book ends with a short chapter on that genus set apart for tropical gardens only—the lianas.

This is a book which California gardeners should own and it is also especially valuable for those planning personal expeditions to Mexico, since an appendix gives the vernacular names by which the native plants are locally known.

COLOR AND SUCCESSION OF BLOOM IN THE FLOWER BORDER

Those industrious joint authors, Ortloff and Raymore, have given us another garden book. They write, this time, to assist us in keeping a succession of bloom in our gardens. ("Color and Succession of Bloom in the Flower Border", by H. Stuart Ortloff and Henry B. Raymore, Doubleday, Doran Outdoor Books, $2.50).

These two well-known landscape architects have focussed on the perennial border and on that treatment of it which produces the best results in a continual and colorful show of bloom.

Although written and published in the East, its scope is wide enough to make the book of almost equal value for Californians, the theories and much of the plant material holding good for both regions.

Some space is given to the preparation of the flower beds, the treatment of the soil and the structure of the border, but the bulk of the pages are given over to the selection of the proper plants for flowering succession and the best methods of prolonging the blooming season. The long chapter devoted to "Color in the Border" is interesting and most helpful in its discussion of the principles which solve the color problem in the garden. Here the writers base their deductions on the "psychological theory" of color, which is concerned "not with the creation of colors by mixing pigments or light rays, but with colors as they exist in nature and their effect upon the human observer."

To aid in the development of this theory a clever "rational color circle" is reproduced from Faber Birren's "Color Dimensions." This is a sort of solar system of thirteen primary, secondary and tertiary colors, arranged and spaced to show the various gradations of hue which the human eye can distinguish. When the flower border is being arranged, one glance at this chart will prove a short cut to correct conclusions:—with its aid the eye can quickly decide what plant groups may be happily associated.

Few books have gone so thoroughly into the question of color as this one. The above chapter, alone, is worth the entire price of the volume.

And by the way, whenever this question of color comes up, it brings

with it the crying need for a universal color chart. Something within the financial reach of all of us. Something every nurseryman can own and base his catalog descriptions upon; something every gardener can own to check up these descriptions. Then there will be left only the difficulty of variations in individual sight.

The lists contained in the book are useful. They are full, wisely compiled and generous in number, covering plants for backgrounds, accent plants, plants for edgings, for foreground, for seasonal bloom, for moist and for dry places, for cutting and for fragrance. Also there are lists of plants by color and by suitability to various sections of the United States.

Each year the gardening books of the United States are having a wider use, geographically speaking. Each year the Californian is finding that he can, after all, grow many eastern flowers. And our fellow gardeners in the East are certainly doing much experimenting with plants of temperate climates. And on the other hand—and this is a cause for thankfulness—there are many plants, flowers and shrubs which can never be used interchangeably. So we may all try out new material to our hearts' content with no danger that our gardens, either in the East or in California, will lose those characteristics whch are so great a part of their charms.

LESTER ROWNTREE,
Carmel, California.

FAIRY MUSIC

My carillon is ringing.
Hark! Would'st thou like to hear?
Then tiptoe to my garden
And tune a mystic ear.

The loveliest of music
From wee bells softly rings,
But cast off care and worry
And thought of mundane things.

My lilies of the valley
Will play from morn to night,
With a zephyr at the keyboard,
A lovely Elfin Sprite.

No chimes in storied tower
Are half so clear to me
As my wee bells a ringing—
O, fairy rhapsody.

ELIZABETH A. LEWIS.
Plainfield, N. J.

Soil Sterilization . . .

By R. R. McLEAN

. . . Control of Soil Pests and Diseases

MATERIAL	AMOUNT	APPLICATION	REMARKS
Carbon biphide	½ to ¾ oz. per sq. ft.	Inject in soil 3 to 6 inches below surface. Cover well. Soil should not be very wet or very dry.	Air fr week before planting.
Carbon bisulphide emulsion (A commercial product)	Dilute 1 part with 49 parts of water. Use 1 gal. per sq. foot.	Pour evenly over surface. Soil should be moist and loose.	Most effective in greenhouses.
Sodium Cyanide and Ammonium Sulphate	1 lb. to 50 sq. feet. 1 lb. to 30 sq. feet.	Dissolve sodium cyanide in water and pour over loose soil. Irrigate heavily and pou ron ammonium sulphate solution same day. Irrigate again lightly and ocevr.	Both of these materials have fertilizing value also. Air soil 2 weeks. Do not use on clay soils.
Cyanogas (Calcium cyanide)	1 lb. to 50 sq. feet.	Spread dry over surface. Dig in and irrigate.	Air for a week or more.
Formaldehyde	Dilute 1 part with 50 parts of water. Use ½ to 1 gal. per sq. ft.	Sprinkle ove rsurface or inject in soil few inches. Cover well.	Principally a fungicide. Air soil 10 days after using.

NOTE: *Carbon bisulphide* is inflammable and explosive. Do not expose to fire and do not inhale. *Sodium cyanide* and *calcium cyanide* are poisonous and care should be observed in their use. *Formaldehyde* should not be inhaled.

All of the above materials are directly injurious to plant roots, hence should not be used where plants are growing. Air soils from one to two weeks after using and before planting. Covering the area treated tends to confine the gas and increase the effectiveness of the material used.

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A Collecting Trip . . .

By C. I. JERABEK

. . . Desert Trip for Cactus Specimens

During the month of May, Fred Bode, Jr., Edward Fleenor, two SERA workers and myself made a trip into the desert of San Diego County for the purpose of collecting some desert flora to be used in the cactus garden in Balboa Park.

Through the courtesy of Mr. J. G. Morley, Supt. of Parks, a large city truck was secured. Mr. Wynne L. Van Schaick, Director of Buildings and Grounds, C. P. I. E., furnished all food supplies and other equipment, and Mr. Robert R. McLean, San Diego County Agricultural Commissioner, issued a special permit to make this collection not only for the Exposition but for a permanent planting for future generations.

Leaving San Diego about 7:30 a. m. we drove directly to the Borega area. Upon arriving at our destination, I selected six good specimens of Ferocactus acanthodes (Barrel Cactus); the boys immediately set to work digging them, and later carrying them to the truck. After this strenuous work it was an hour past the lunch hour, but as the desert was so warm we decided to drive back to Sentenac canyon.

As soon as the inner man was satisfied we went up one of the draws about a quarter of a mile and brought out a half dozen of Fouquiera splendens (Octotillo, or Candle-flower). This may seem an easy job, but it took some real energy and considerable time and when the task was completed the afternoon was on the wane.

Fred directed us to an abandoned cabin in San Felipe valley, after unloading our paraphernalia we made ourselves at home. Our guide also acted as cook for the evening repast. After a social evening by the light of one flashlight and the moon, we retired, to be awakened in the morning by the serenade of the coyotes.

Eddie, our truck driver, said, "I will show you how a real breakfast should be cooked." Perhaps the food was not so clean as mother makes but we ate everything both the cooks set before us.

By 6:30 a. m. the truck was loaded again and we started on our journey through San Felipe Valley, Box Canyon and Mason Valley. This is a well stocked region for several kinds of cacti as well as acres of agave deserti and yuccas.

In the dry gravelly washes we found a number of Phellosperma tetrancestra (Fishhook cactus and Opuntia bigelovii (Silver Cholla or Jumping cactus, Op. echinocarpa, Op. basilaris (Beaver-tail), Op. ramosissima (Holy-Cross Cactus) and we took three gorgeous clumps of Echinocereus Engelmanii, this concluded our collection.

On the way out visits were made at the reconstructed Vallecitos Stage Depot and farther along the route Agua Caliente Hot Springs. Two of the boys, Russell Burger and George Considine took a plunge in the pool and came out rejuvenated, at least they said so.

Driving down Carrizo wash we came upon a most desolate area, as far as one could see nothing but yellow adobe hills some covered with siliceous soil, the pieces of silica shining in the sunshine like thousands of pieces of looking-glasses.

Leaving this hot but interesting place, proceeding through some of the bad lands of Imperial County we finally reached Plaster City on the U. S. Highway 80. During the day we seldom went more than five miles an hour over the tortuous and treacherous road but after reaching the pavement it was but a short time before we were back in San Diego.

Now, instead of you making this hard trip all that needs to be done on your part is to visit the Cactus Garden at the California Pacific International Exposition, where a small replica of our desert country can be seen.

CALIFORNIA GARDEN CLUB FEDERATION MEETS IN SAN DIEGO

The California Garden Club Federation's annual meeting held in San Diego, June 14, 15 and 16 was a pleasant event for the Floral association. Having so many garden minded folk in the city from other parts of the state made possible some delightful contacts. Association members enjoyed meeting past-president Mrs. Leonard Slausson of Los Angeles and new president, Mrs. Richard Kirkley (also of Los Angeles) as well as the 150 delegates from the federation districts.

Miss Kate A. Sessions, the association's premier member is also an honorary member of the federation. Her talk on vines and their beauty and usefulness at the federation banquet the night of the 15th was, according to officials of the state organization, a highlight in their programs here.

The Floral association said their greetings to the visitors with flowers, which they sent to the rooms reserved at El Cortez hotel and strewed on the banquet table the night of the banquet. The table decorations were supervised by Miss Alice Rainford, San Diego florist. The Misses Etta and Lydia Schwieder lent their talents to the room bouquets. Mrs. Mary A. Greer, president of the association, poured at the tea given by the Women's Executive Committee in Hospitality house on the 16th, the federation's day at the Exposition.

Delegates to the meeting were much impressed by the Aloe and Agave garden in Balboa park, sponsored by the association in honor of Miss Sessions. They also enjoyed some of the most beautiful gardens in the city as a result of consultation with the association. These gardens included those of George W. Marston, Mrs. Herbert S. Evans, the Erskine J. Campbells, Mrs. Fred Scripps, Rosecroft Begonia gardens, Presidio park and the Zlac clubhouse where tea was given them.

A. P.

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Nicolas Rose Manual

The Nicolas "Rose Manual" is out. It costs $3.00 and is published by Doubleday Doran. The Queen of Flowers has no reason to feel aggrieved in these days, for current horticultural writers are giving her what she probably feels is almost her due amount of attention.

J. H. Nicolas is a Frenchman who has grown roses in America for almost thirty years; in this manual he tells us of his "studies, experiences, and observations" in this fascinating line of work.

Each rose book which appears has its own approach to the subject. No one book seems to contain all the facts the rose grower needs and the rose shelf becomes more and more crowded with volumes, all indispensable.

Mr. Nicolas gives us a chapter on bush and dwarf roses—as distinguished from shrub roses—just touching on the teas, the mosses, the bourbons and the polyantha. Then he moves on to climbing roses, giving a list of hardy climbers and their adaptation and a chapter on the uses of the climpers. The short chapter on shrub roses is taken up mainly by a useful list of species roses with full descriptions.

There follow chapters on culture, pruning and general care, a most valuable one on climate, which contains a keyed map of the rose-growing zones in the United States, and an absorbing one on hybridization. And the book contains (what more flower books should give us) four color charts which give the four major ranges of rose coloring: yellow, salmon, pink and red. These are the charts of the Gravereaux system, now the European standard for rose description, and were reproduced here by special permission.

In the chapter on planting, in addition to the general discussion, Mr. Nicolas presents a long, original and carefully worked out list of roses with numeric and alphabetic symbols to indicate color shade, climatic zone, exposure and use. Although at first sight this list may seem difficult to the novice, a few moments of examination shows its actual simplicity and great value and convenience.

The combined dictionary and index at the end is a little work on roses in itself and the whole volume has a freshness and novelty of treatment—so fresh and new, in fact that it is what so few garden books are—highly readable and enjoyable as well as a storehouse of useful facts.

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Questions and Answers . . .

By R. R. McLEAN

. . . Good Drainage and Acid Soil Essential to Success with Rhododendrons

Question: I have tried to grow both camellias and rhododendrons but without much success. Perhaps my methods, or the soil, is wrong. Can you give me general directions that will help me?—Mrs. W.

Answer: General directions as given by Butterfield (U. of C.) are as follows: For camellias, "very cool, drafty situations are to be avoided. A camellia plant should never be permitted to suffer for moisture. A fertile soil is required and enough organic matter should be added each year to keep the camellia in a vigorous condition. Shading the blooms a little during the blooming period may help to prevent sunburn. Blasting is apt to result if the petals or opening buds are wetter. A fungous trouble also attacks the flowers at times and may be discouraged by wetting, especially overnight." It will also be found of advantage to use plenty of oak and pine needle leaf mold around camellias, as they need a slightly acid soil. Practically all of our southern California soils, particularly in sections outside of the mountains where the rainfall is low, are far more alkaline than acid.

For rhododendrons and azealeas, Butterfield states: "Rhododendrons need a very well-drained, slightly acid soil. This requirement is easily met by planting a soil mixed with German peat or oak leaf mold. Pine needles are useful in keeping the soil slightly acid and in good condition. Barnyard manure is not suitable because the ash is alkaline. An acid fertilizer like ammonium sulphate might be added if the nitrogen supply cannot be kept up by leaf mold and pine needles. Watering is even more important than having the soil slightly acid. Heavy soils need to be lightened to insure good drainage. Water should be added often enough to keep the plants in good growing condition, especially through the fall and early winter when the plants might suffer. Buds for the next flower crop are being formed at this time, and these flower buds may abort or fail to develop if the plants are neglected. A good mulch of leaf mold around each plant is helpful. Some gardeners plant small pines near to provide some protection from the sun and wind while the rhododendrons are small, later taking out the pines when more space is needed. Rhododendrons and azealeas do not have any serious insects or diseases in the garden. The soil and moisture difficulties mentioned above will account for most failures."

Question: On the inside of a Monterey Cypress hedge are numerous nests of dead needles and in some are small, black worms about half an inch in length. They are very lively and hang from a thread when disturbed. Is there any treatment I can give the hedge to kill the worms?—P. S. D.

Answer: Perhaps the best treatment for the cypress moth would be a spray of tobacco, oil and arsenate of lead. Mix together thoroughly ½ pint of Black Leaf 40, 1 pint of concentrated oil emulsion (such as Volck, Triple X, etc.), 1¼ pounds of arsenate of lead and 50 gallons of water. Fish oil soap may be substituted for the oil emulsion, if desired, using 2 to 2½ pounds. It is important that this spray be applied with as much force as possible so that it may be driven into the hedge and masses of frass containing worms. Apply when the worms appear most numerous.

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